CLAIMS

What is claimed is:

1. A method comprising:

each of a plurality of first elements of a packet switching system collecting information representing approximately a volume of traffic contained within the particular said first element;

each of the plurality of first elements transmitting an indication of a subset of the collected information to a second element of the packet switching system;

the second element receiving the transmitted indications from one or more of the plurality of first elements; and

the second element manipulating the received indications to determine a set of traffic conditions.

2. The method of claim 1, wherein the first and second elements include switching elements of the packet switching system.

3. The method of claim 1, wherein collecting information by each of the plurality of first elements of the packet switching system includes maintaining a data structure indicating a traffic volume for each destination.

4. The method of claim 3, wherein each destination is an I/O interface, a line card, a port, or other component of the packet switching system.

5. The method of claim 3, wherein the set of traffic conditions includes a destination traffic condition for each destination.

6. The method of claim 5, wherein each destination is an I/O interface, a line card, a port, or other component of the packet switching system.

7. The method of claim 1, wherein the set of traffic conditions includes a destination traffic indication for each destination connected to the second element.

8. The method of claim 1, wherein a routing stage of the packet switching system includes each of the plurality of first elements.

9. The method of claim 1, wherein a final switching stage of the packet switching system includes the second element.

10. The method of claim 1, further comprising the second element distributing an indication of a traffic condition from the determined set of traffic conditions.

11. The method of claim 10, wherein the determined set of traffic conditions are distributed to one or more components within the packet switching system providing traffic to a switching fabric of the packet switching system.

12. The method of claim 10, wherein the determined set of traffic conditions are distributed to one or more components external to the packet switching system.

13. A packet switching system comprising:

a plurality of first components, each of the first components including a tabulator to maintain one or more quantities of packets located within the particular first component;

a plurality of second components connected to the plurality of first components, each of the plurality of second components including an accumulator to receive and manipulate one or more indications of said quantities of packets from one or more of the plurality of first components and to determine conditions of traffic within the packet switching system.

14. The packet switching system of claim 13, wherein each of the first and second components include switching elements.

15. The packet switching system of claim 13, wherein each of the plurality of second components further includes a distribution mechanism for distributing indications of the determined traffic conditions.

16. The packet switching system of claim 15, wherein one or more flow control messages sent by one of the plurality of second components includes one or more of said indications of the determined traffic conditions.

17. The packet switching system of claim 15, wherein each of the first and second components are switching elements.

18. A packet switching system comprising:

means for tabulating traffic information in a first switching element of the packet switching system;

means for forwarding indications of the tabulated traffic information from the first switching element to a second switching element;

means for accumulating traffic information in the second switching element; and

means for distributing from the second switching element to a third element of the packet switching system one or more flow control indications based on the accumulated traffic information.

19. The packet switching system of claim 18, wherein a final switching stage of the packet switching system includes the second switching element.

20. The packet switching system of claim 18, wherein a final switching stage of a switching fabric of the packet switching system includes the second switching element.